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ABSTRACT

This study developed a valid self-report survey instrument to reliably identify intrinsic and extrinsic motivators that would engage classroom teachers in continuing professional education activities. Intrinsic and extrinsic motivators were identified from research in the areas of adult learning and professional development. Further qualitative data were collected through a group interview activity with a graduate class. Draft items were sent to a nationwide group of professional staff developers for revision. The revised instrument was pilot tested with 148 teachers. Survey responses were used to statistically analyze instrument validity and reliability. Upon concluding that the instrument was valid and reliable, 149 Pennsylvania school principals were invited to participate in the study. Principals of 32 schools requested 1,795 surveys for distribution to teachers. The survey instrument was field-tested in 20 demographically diverse school districts. Results supported the value of designing continuing professional education with thoughtful inclusion of intrinsic motivators (inviting teachers to assess their own professional needs within the framework of their school's mission and goals). Results found that teachers of all instructional levels and years of experience engaged at the highest level when their ongoing education had direct application to their classroom assignment. (Contains 14 references.) (SM)

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Introduction

In an age of shifting educational paradigms, standards-based curricula, performance-based assessments, multi-aged student groupings, inclusionary instruction, brain-based learning, multiple intelligences, and distance learning, there is a clear need for an understanding of what motivates teachers to engage in continuing education. Guskey and Huberman (1995) state that "we must design professional development activities to help teachers maintain, or in some cases rediscover, the enthusiasm, hopefulness, and commitment they have for teaching (p. 116). They describe "the teaching and learning process [as] a complex endeavor that is embedded in contexts that are highly diverse and dynamic. They change and adapt in response to a variety of influences that may be self-initiated or environmentally imposed" (p. 117).

Current educational literature embraces the paramount importance of continuing professional education by classroom teachers. Philip C. Candy (1991), Associate Professor and Director of the Academic Staff Development Unit at the Queensland University of Technology in Brisbane, Australia, recommends that "researchers should examine learners' concepts of themselves as learners. This would include trying to ascertain both generalized and subject-specific images of their learning competence" (p. 448). He continues by calling for researchers to "study how teachers construe learner autonomy. [The researchers] should examine the extent to which individual practitioners

regard it as developable capacity, and the sort of behaviors they would look for in autonomous learners" (p. 450).

Such research focused on intrinsic and extrinsic motivators of continuing professional education activities engaged in by classroom teachers could provide a depth of understanding for what Peter Senge et al. (2000) label *schools that learn*. In these schools, he identifies a teacher's practice of ongoing professional development as one of three prerequisites for a learning classroom in which "teachers themselves are continuous and lifelong learners, with the knowledge of their subject, and of the craft of teaching, evolving throughout their lifetimes" (p. 12).

An assumption inherent in the research presented in this paper is that motivational factors resulting in continuing professional education are not constant across the vast population of public school teachers. It is further assumed that not only do intrinsic and extrinsic motivational factors evolve over the expanse of a teacher's career, but the grade level taught by individual teachers also influences them.

Research identifying motivators that engage classroom teachers in continuing professional education provides valuable information for school systems to consider when developing those learning opportunities. Providing continuing professional education within a framework that accommodates and supports identified motivators of learning has the capacity to increase meaningfulness within the standards of content, context, and process. It is also cost-effective.

Identification of extrinsic motivators of continuing professional education is relatively clear. Wlodkowski (1999) suggests that an extrinsic orientation to motivation is dominant in education. "The focus for learning is on the extrinsic rewards such as grades, eligibility, and money" (p. 9). When educational systems use such extrinsic motivators as job security, promotion, salary advancement, goals and scores to encourage classroom teachers to participate in continuing professional education, then Lawler and King (2000) state that those connections must be understood. "If a [teacher] does not see connections between the program, changing behavior as a result of new learning, and then appropriate reward, there may be little motivation to attend" (p. 11). Wlodkowski (1999) goes on to suggest that "when learners do not respond to these incentives, they are often seen as responsible for their lack of motivation. They are likely to be described as lacking ambition, initiative, or self-direction" (p. 9).

When an extrinsic approach to motivation fails, Wlodkowski (1999) advocates reconsidering motivation from the learners' perspective: "Because learning is the human act of making meaning from experience, our involving all learners requires us to be aware of how they make sense of their world and how they interpret their learning environment" (p.10). In a similar statement, Knowles, Holton, and Swanson (1998) suggest that creative leaders must "take steps to minimize the dissatisfiers and concentrate their energy on optimizing the satisfiers" (p. 209).

Approaching this issue from a brain research background, Eric Jensen (1998) examines intrinsic motivation as context dependent. He questions what conditions are present when self-directed, self-motivated learning is taking place. Jensen states that "any discussion about intrinsic motivation must include the learner's natural search and subsequent construction of meaning" (p. 67). This position is reinforced by the brain research conducted by Renate Nummela Caine and Geoffrey Caine (1997). They report:

> Our experience confirms that the [learning] process acquires a dynamic of its own. It becomes intrinsically fulfilling and is accompanied by the constant urge to go deeper. It therefore becomes a process that thrives on possibility and that induces the pursuit of excellence, not as dictated and mechanical outcome, but as natural and joyful consequence of meaningful learning (p. 125).

This statement captures the importance of expanding the research base that analyzes intrinsic and extrinsic motivators of continuing professional education. Identifying those motivators could provide significant tools for developing meaningful support for educators of the 21st Century.

Method

To that end, this study began with the development of a valid self-report survey instrument to reliably identify intrinsic and extrinsic motivators that engage classroom teachers in continuing professional education activities. Item development for the survey instrument was founded in a review of the literature. Extrinsic and intrinsic motivators

were identified from the research in the areas of adult learning and professional development over the past twenty-five years. This resulted in a compilation of elements of extrinsic motivation that included salary advances, titles, degrees, certification regulations and requirements, system expectations, and job security. The list of elements of intrinsic motivation included self-identity and self-perception, construction of meaning, context dependence, control, choice, collaboration, and personal goals and values.

Further qualitative data were collected through a group interview activity conducted with a graduate class. That class, consisting of educational leaders from the southeastern Pennsylvania region, was focused on current issues of continuing professional development. As practitioners in the field, these educators identified those items that they believed to strongly influence participation in ongoing professional education by classroom teachers. Items were then divided into extrinsic and intrinsic motivators and prioritized.

The responses of the focus group, correlated with the results of the literature review, were the qualitative basis for the initial development of the 40 items that comprised the draft copy of the self-report survey instrument. Items were presented as statements followed by a Lickert-type scale in which respondents were instructed to record their response on a scale from 1 (disagree) to 5 (agree).

The draft items were then sent to a nation-wide group of 27 professional staff developers randomly selected from the participants of a continuing professional education

workshop presented by the National Staff Development Council. These educators had professional responsibilities in the area of staff development and their participation in the conference was an indication of their personal motivation for engaging in continuing education. The instrument items were revised with consideration given to this group's critiques.

The revised instrument was then pilot tested through administration to 148 teachers. Survey responses were used to statistically analyze for instrument validity and reliability. Of the 148 subjects, a sub-sample of 47 teachers was pre-identified as engaged and enthusiastic learners. Sub-sample subjects from the school faculties were identified through a general interview guide approach with principals. This approach supported the need to clarify characteristics of engaged and enthusiastic learners with the principals before they determined those faculty members to be categorized in that sub-sample group.

Subjects of the pilot test were told that they were assisting in a validation process of the survey instrument. The sub-sample subjects were not aware of their status as pre-identified enthusiastic learners. Neither were they aware that they were given a slightly modified survey instrument. Completed surveys were collected randomly, and the sub-sample group was sorted out from the sample during the statistical data entry process.

The purpose of pre-determining the sub-sample of subjects who were perceived to be engaged and enthusiastic learners was to provide two data sets of responses for comparative statistical analysis.

A frequency analysis was conducted with each item from the pilot data to validate that there were no out-of-range values. Reliability was statistically tested by applying the Cronbach alpha for the entire survey, for the intrinsic factor alone, and for the extrinsic factor alone. Both the full survey instrument and the intrinsic factor indicated a reliability of .79. The reliability coefficients for the extrinsic factor achieved .67 with eight items.

Upon concluding that the instrument was statistically valid and reliable, a sample of the self-report survey was sent to 149 school principals in southeastern Pennsylvania providing them the opportunity to participate in the study. Principals of 32 schools responded positively with requests for a total of 1,795 surveys to be distributed to classroom teachers. Principals were sent requested surveys in August 2001 with instructions for distribution, collection, and return of completed surveys.

The survey instrument was then field tested in 20 demographically diverse school districts in the southeastern region of Pennsylvania. The survey was conducted from August through October of 2001. The total number of educators participating in the survey was 854, a return rate of 48%.

In addition to the 40 Lickert-type scale items, the final instrument concluded with three demographic items requesting participants to indicate their number of years of

experience in education, their gender, and the type of their classroom: regular, vocational, or special education, or other.

Empirical validity of the survey instrument was determined through quantitative research. In the full data set from the field study, the values of 0, indicating no response to items, were transformed to a mean of 3 in all cases. The Kaiser-Meyer-Olkin measure of sampling adequacy was .887 indicating the data to be factorable. The Bartlett's test of sphericity with a significant chi-square indicated multivariate normality of data and therefore appropriate for factor analysis.

A confirmation approach to principal component analysis was the first taken employing varimax, promax, oblimin, and equamax rotations with Kaiser normalization. A review of these data led to an increase in the required eigenvalue for rotation which was raised to 1.33. The final factor extraction method used was alpha factoring. With the varimax rotation, five sub-scales emerged. These five sub-scales included 38 of 40 survey items. Two items did not line up with any sub-scales, and therefore were eliminated from the study.

Items in each of the five sub-scales were reviewed and labels were assigned. Factor 1, consisting of thirteen items, was labeled "intrinsic." Factor 2, consisting of ten items, was labeled "extrinsic." Factor 3, consisting of five items, was labeled "social." Factor 4, consisting of six items, was labeled "career." Factor 5, consisting of four items, was labeled "pragmatic." The logical groupings of the first three factors were clear and distinct.

unlike the last two factors where logical grouping was vague. When tested for reliability, these last two factors resulted in alpha coefficients of .57 and .38 respectively, and were determined unreliable for the purpose of the study. They were excluded from inferential statistical analysis.

The statistical analysis of one of the hypotheses of this study tested the correlation between the number of years of experience as a classroom educator and subjects' responses to survey items statistically grouped into three variables: intrinsic motivators, extrinsic motivators, and social motivators.

The first group of subjects analyzed in this hypothesis consisted of those with 1-3 years of experience. These classroom educators included those new to the profession. They were not tenured and as such were engaged in collegiate graduate course work required in order to gain Pennsylvania Instructional Level II certification from the Department of Education.

This group of teachers with 1-3 years of experience did not differ significantly from other groups in terms of intrinsic motivation. All groups, however, produced significantly higher intrinsic mean scores than either their extrinsic variable means or social variable means.

The statistical fact that every group of subjects, no matter what its number of years of experience, responded to this variable of intrinsic items at a significantly higher level than either the extrinsic or social items is of critical importance to this study. These

results provide insight for those whose responsibility it is to develop effective continuing professional education programs for teachers. The results of this study imply that weaving intrinsic motivators into the fabric of professional development programs will raise the probability that teachers will be engaged in those activities.

The extrinsic variable predictably resulted in a statistically lower mean than that of the intrinsic variable for all years of experience groups, with the 1-3 years group being the only group to achieve a statistically significant higher mean than three of the other groups. It should be noted that this does not necessarily suggest that the educational system tends to lower the motivational level for ongoing professional development by teachers after three years of experience. In reality, the motivation of the 1-3 years of experience group may level out after the attainment of tenure.

A statistically significant difference was found in the social variable between the 1-3 years of experience group and the three groups between 21 years and 31-and-over years. This significant difference indicates that those teachers with 21 or more years of experience were not as strongly motivated to engage in continuing professional education processes of collaboration and reflection than were the non-tenured teachers with 1-3 years of experience.

The statistical analysis of the last hypothesis tested the correlation between the instructional levels of the subjects and their responses to survey items statistically grouped into three variables: intrinsic motivators, extrinsic motivators, and social

motivators. The instructional levels were divided into elementary, middle, and high school.

The elementary group had a statistically significant higher mean than that of both the middle and high school groups for each of the three variables. The middle and high school groups had no statistically significant difference in any of the variables. Discussion of the findings, therefore, is reduced to two groups of subjects: the elementary group and the middle/high school group.

Discussion

The elementary group had a mean of 4.34 in the intrinsic variable, a mean of 3.41 in the extrinsic variable, and a mean of 3.09 in the social variable. The intrinsic mean was higher than any of the intrinsic means achieved by any of the years of experience groups. The statistics indicate that elementary teachers as a category support Wlodkowski's (1999) hierarchy of adult motivation: personal goals, choices, values, and enjoyment. They are motivated to participate in continuing professional education that has clear meaning and application to their personal goals and their professional responsibilities. They enjoy participating in professional development programs that provide for choices and differentiation in strategies of presentation. Elementary teachers enjoy professional development opportunities that address their needs as they have assessed them. Intrinsic motivators heighten self-image and bring value to engaging in new learning.

The elementary group did not respond as positively to the extrinsic survey items as it did to the intrinsic items. With a mean response of 3.41, elementary teachers made a connection between both standardized testing and state-mandated re-certification education requirements and their need to participate in ongoing staff development programs. The fact that this mean was significantly lower than the 4.34 intrinsic mean indicates a lower level of motivation achieved through these extrinsic variables. Teachers recognized the lack of choices and loss of control with required professional development programs. State or district-directed training detracted from the pleasure gained through participation in the individualized, personalized training identified in the intrinsic factor items.

The statistic resulting in the elementary group achieving its lowest mean with the social variable was unexpected. This variable represents the factors of collaboration and reflection.

Elementary teachers typically work in isolation; that is, they have one group of students all day and they instruct all basic curricular areas. This is in contrast to the middle and high school levels where thematic or cross-curricular instruction requires co-teaching or at least collaboration between two or more teachers in the preparation of instruction. While elementary teachers enjoyed the informal sharing of new learning with colleagues as presented in the intrinsic variable, they were not as inclined to formalize that collaboration into the team-teaching or study groups presented in the social variable.

The middle/high school group was consistently lower than the elementary group in all three variables. While the third hypothesis had a bias that expected the elementary level to result in the highest "intrinsic" mean, it also expected that the middle group would produce a statistically higher "intrinsic" mean than the high school group. That was not the case. Nor was it the case for the extrinsic or social variables.

Results from the survey responses for the middle/high school group produce the same trend line as the elementary group. The intrinsic variable mean is the highest, followed by the extrinsic mean, and ending with the social mean as the lowest of the three variables.

Conclusions

The purpose of the study was to produce statistical support for developing continuing professional education programs for classroom teachers incorporating motivators that maximize learning. The extrinsic motivators in existing programs are most apparent. Federal mandates, state controls, high-stakes standards for student achievement, required ongoing professional development for certification, and increasing teacher accountability and testing are obvious extrinsic influences on classroom teachers.

In addition, local issues of salary increases and career advancement often surface as the motivation behind teacher participation in courses and workshops. School districts develop teacher training addressing initiatives that result from strategic planning. There

are control issues and systemic structures down every hallway that turn teacher training into opportunities lost.

The findings of this study clearly support the value of designing continuing professional education with thoughtful inclusion of intrinsic motivators. This means inviting teachers to assess their own professional needs within the framework of their school's mission and goals. Identifying individual professional goals that connect to those of the school provides meaning and value for engaging in new learning.

Teachers need to be supported through continuing professional education as they define the path they will take to meet their goals. Staff development programs need to allow for multiple strategies that respond to individual choices. Teachers of all instructional levels and years of experience engage at the highest level when their ongoing education has direct application to their classroom assignments. This connection provides meaning and stimulates a positive self-image.

Based on the findings of this study, staff developers would be well advised to revisit traditional models of prescribed professional development. Required courses and mandated hours could have greater significance if they were embedded with identified intrinsic motivators. Teachers must be involved in a meaningful way in the shaping of their ongoing learning. Extrinsic rewards are important, social collaboration is helpful, but enthusiastic engagement in continuing professional education is attained through intrinsic motivation.

Tomorrow's school administrators need to approach the educational opportunities of the millennium prepared to design professional development activities that build on teachers' experiences and that encourage them to shape their individual professional goals within an organization's strategic mission. Higher education can provide the models and strategies for designing professional development activities that value teachers' contributions and their involvement in planning, that encourage direct applications of new learning to individual teacher's work, that provide resources for a learning community, and that celebrate teachers' success as made evident in the outcomes of their ongoing professional development.

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